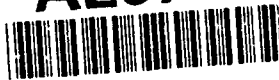


AD-A267 586

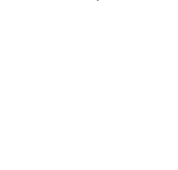
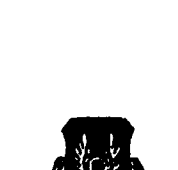


102



CTN Test Report
90-034

AFTB-ID-90-002



**Technical Publication
Transfer Test Using
AT&T Technology Systems
Provided Data:
MIL-M-28001 (SGML) and
MIL-R-28002 (Raster),
Type I**

Quick Short Test Report

September 5, 1990

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93-17122

Prepared for
Air Force Logistics Command
Air Force CALS Test Bed (LMSC/SNX)
Wright-Patterson AFB, OH 45433

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**Air Force
Environmental Planning Division
(HQ USAF/CEVP)**

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1. Test Parameters

Test Plan: AFTB 90-02

**Date of
Evaluation:** August 10, 1990

Evaluators: Air Force CALS Test Bed
HQ AFLC IMSC/SNX
Wright-Patterson AFB, OH

**Data
Originator:** AT&T Technology Systems
Federal Systems
Guilford Center
P.O. Box 20046
Greensboro, NC 27420

**Data
Description:** Maintenance Manual for Enhanced Modular
Signal Processor (EMSP)
1 document declaration file
1 text file
19 Raster Files

**Data
Source System:**

Text/SGML	System Unknown Frame Technology
Raster	System Unknown Frame Technology

**Evaluation
Tools Used:**

1840A	CTN Tapetools (v1.1) UNIX
SGML	Exoterica XGML Compugraphics CALS
Raster	CTN Raster Tools

**Standards
Tested:**

MIL-STD-1840A Notice 1 (1840A)
MIL-M-28001 (28001)
MIL-R-28002 Amendment 1 (28002)

2. Introduction

2.1 Background

The DoD Computer-aided Acquisition and Logistic Support (CALS) Test Network (CTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The CTN is a DoD-sponsored confederation of voluntary participants from industry and government managed by the Air Force Logistics Command.

The primary objective of the CTN is to evaluate the effectiveness of the CALS standards (Standards) for technical data interchange and to demonstrate the technical capabilities and operational suitability of those Standards. Two general categories of tests are performed to evaluate the Standards, formal and informal. Formal tests are large, comprehensive tests that follow a written test plan, require specific authorization from DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, taking only a few hours to set up and execute. They are used by the CTN technical staff to broaden the testing base by including representative samples of the many systems and applications used by CTN participants. They also allow the CTN staff to gain feedback from many industry and government interpretations of the Standards, to increase the base of participation in the CALS initiative, and to respond, in a timely manner, to the many requests for help that come from participants. Participants take part voluntarily and are benefited by receiving an evaluation of their latest implementation (interpretation) of the Standards, interacting with the CTN technical staff, gaining experience in use of the Standards, and developing increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

2.2 Purpose

The purpose of the informal test reported in this QSTR was to analyze AT&T Technology Systems interpretation and use of the CALS standards in transferring technical publications data. AT&T used its CALS Technical Data Interchange System to produce data in accordance with the Standards and delivered it to the CTN technical staff on a 9-track magnetic tape.

3. 1840A Analysis

3.1 External Packaging

This was not evaluated. Because of the time involved (the AFTB was unable to perform the test upon receipt of the tape) between the receipt of the tape and the evaluation, the shipping container was misplaced.

3.2 Transmission Envelope

3.2.1 Tape Formats

The 1840A Tape was run through the AFTB TAPETOOL utility version 1.1. Three errors were uncovered with this utility. These were all "Invalid record size encountered" errors. All of the errors are shown in Appendix A, section two, Tape Import Log. The error is detailed in FIPS Pub 79, para. 7.6.3 and ANSI X3.27-1987, para. 8.5.2.6.

These errors were in the header files for the three non raster images, the D001 (tape directory), D001G (DTD), and the D001T001 (text file). The errors all related to the record size. MIL-STD-1840A is looking for a block length of 260 and received a block length of 256. These errors did not affect the parsing of the files. The TAPETOOL was looking for the 256 block length plus the four digits indicating the block length (256). This error is not critical to the handling of files, but in production, any error is critical since the receiving station may not have the capability to analyze errors and simply mark the tape as bad, thus returning it to the supplier. Currently this is listed as a variable field length with a maximum length of 260. Although it is a variable length field, some CALS software is sensitive to the number 260.

3.2.2 Declaration and Header Fields

All 19 headers for the Raster images had an error. MIL-STD-1840A requires that the rdensty field be zero filled to the specified length. The raster density (rdensty) field is four characters long. The tape headers were three characters long. The tape indicated "rdensty: 300" instead of the required "rdensty: 0300." This error was consistent throughout the 19 images provided on the tape. This error is detailed in MIL-STD-1840A, para. 5.1.4.4.

4. SGML Analysis

The text files from this document were tested using the Software Exoterica XGML parser. No errors were noted during this process.

The document was read into Compugraphics CALS/CAPS software package on the Sun 3/60. The document was parsed without problem. This application presented the document to the screen using its general FOSI. Because the FOSI was not the same as the original, the output did not match the original exactly but all data was displayed.

5. Raster Analysis

All 19 raster images were checked using the CTN CALSTB.350 utility. All images were displayed without problem.

6. Conclusions and Recommendations

In summary, the 1840A tape from AT&T Technology Systems was well done. The errors with the raster density header files can be easily corrected with the tape creation software. The header file errors again can be traced back to the tape creation software. This again should easily corrected. The tape provided both AT&T and Frame Technology with a learning experience.

7. Appendix A - Tape Tool Report Logs

7.1 Tape Catalog

CALS Test Network Tape Evaluation - Version 1.1
MIL-STD-1840A Tape Evaluation Catalog

Thu Aug 9 09:21:12 1990

Document File Set Directory: /cals/newtape/Set002

Page: 1

File Name	File Type	Record Type	Record Length
d001	Document Declaration	D	00256
d001g001	DTD	D	00256
d001t001	Text	D	00256
d001r001	Raster	F	00128
d001r002	Raster	F	00128
d001r003	Raster	F	00128
d001r004	Raster	F	00128
d001r005	Raster	F	00128
d001r006	Raster	F	00128
d001r007	Raster	F	00128
d001r008	Raster	F	00128
d001r009	Raster	F	00128
d001r010	Raster	F	00128
d001r011	Raster	F	00128
d001r012	Raster	F	00128
d001r013	Raster	F	00128
d001r014	Raster	F	00128
d001r015	Paster	F	00128
d001r016	Raster	F	00128
d001r017	Raster	F	00128
d001r018	Raster	F	00128
d001r019	Paster	F	00128

7.2 Tape Import Log

CALS Test Network Tape Evaluation - Version 1.1

MIL-STD-1916A ANSI Tape Import Log

Allocating /dev/rmt0...

/dev/rmt0 allocated.

VOL1FRAM01

Label: VOL1
Volume Identifier: FRAM01
Accessibility:
Owner Identifier:
Label-Standard Version: 3

HDR1D001 FRAM0100010001000101 00000 00000 000000Frame Technol

Label: HDR1
File Identifier: D001
File-Set Identifier: FRAM01
File Section Number: 0001
File Sequence Number: 0001
File Generation Number: 0001
File Generation Version Number: 01
Creation Date: 00000
Expiration Date: 00000
Accessibility:
Block Count: 000000
System Code: Frame Technol

HDR2D0204800256

00

Label: HDR2
Recording format: D
Block Length: 02048
Record Length: 00256
Buffer-Offset Length: 00

*** ERROR (FIPS PUB 79;7.6.3) - Invalid variable record size encountered.
Header => 00256, Expected => 260
Variable record length includes 4 bytes for RCW.

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

***** Tape Mark *****

EOF1 D001FRAM0100010001000101 00000 00000 0000001Frame Technol

Label: EOF1
File Identifier: D001
File-Set Identifier: FRAM01
File Section Number: 0001
File Sequence Number: 0001
File Generation Number: 0001
File Generation Version Number: 01
Creation Date: 00000
Expiration Date: 00000
Accessibility:
Block Count: 000001
System Code: Frame Technol

EOF2D0204800256 00

Label: EOF2
Recording format: D
Block Length: 02048
Record Length: 00256
Buffer-Offset Length: 00

***** Tape Mark *****

HDR1D001G001 FRAM0100010002000101 00000 00000 0000000Frame Technol

Label: HDR1
File Identifier: D001G001
File-Set Identifier: FRAM01
File Section Number: 0001
File Sequence Number: 0002
File Generation Number: 0001
File Generation Version Number: 01
Creation Date: 00000
Expiration Date: 00000
Accessibility:
Block Count: 000000
System Code: Frame Technol

HDR2D0204800256 00

Label: HDR2
Recording format: D
Block Length: 02048
Record Length: 00256
Buffer-Offset Length: 00

*** ERROR (FIPS PUB 79;7.6.3) - Invalid variable record size encountered.
Header => 00256, Expected => 260
Variable record length includes 4 bytes for RCW.

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

***** Tape Mark *****

EOF1 D001G001FRAM0100010002000101 00000 00000 000001Frame Technol

Label: EOF1
File Identifier: D001G001
File-Set Identifier: FRAM01
File Section Number: 0001
File Sequence Number: 0002
File Generation Number: 0001
File Generation Version Number: 01
Creation Date: 00000
Expiration Date: 00000
Accessibility:
Block Count: 000001
System Code: Frame Technol

EOF2D0204800256

00

Label: EOF2
Recording format: D
Block Length: 02048
Record Length: 00256
Buffer-Offset Length: 00

***** Tape Mark *****

HDR1D001T001 FRAM0100010003000101 00000 00000 000000Frame Technol

Label: HDR1
File Identifier: D001T001
File-Set Identifier: FRAM01
File Section Number: 0001
File Sequence Number: 0003
File Generation Number: 0001
File Generation Version Number: 01
Creation Date: 00000
Expiration Date: 00000
Accessibility:
Block Count: 000000
System Code: Frame Technol

HDR2D0204800256

00

Label: HDR2
Recording format: D

```
Block Length: 02048
Record Length: 00256
Buffer-Offset Length: 00
```

```
*** ERROR (FIPS PUB 79;7.6.3) - Invalid variable record size encountered.
Header => 00256, Expected => 260
Variable record length includes 4 bytes for RCW.
```

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

***** Tape Mark *****

EOF1 D001T001FRAM0100010003000101 00000 00000 000019Frame Technol

```
Label: EOF1
File Identifier:          D001T001
File-Set Identifier: FRAM01
File Section Number: 0001
File Sequence Number: 0003
File Generation Number: 0001
File Generation Version Number: 01
Creation Date: 00000
Expiration Date: 00000
Accessibility:
Block Count: 000019
System Code: Frame Technol
```

EOF2D0204800256 00

```
Label: EOF2
Recording format: D
Block Length: 02048
Record Length: 00256
Buffer-Offset Length: 00
```

***** Tape Mark *****

HDR1D001R001 FRAM0100010004000101 00000 00000 000000Frame Technol

```
Label: HDR1
File Identifier: D001R001
File-Set Identifier: FRAM01
File Section Number: 0001
File Sequence Number: 0004
File Generation Number: 0001
File Generation Version Number: 01
Creation Date: 00000
Expiration Date: 00000
Accessibility:
```

Block Count: 000000
System Code: Frame Technol

HDR2F0204800128

00

Label: HDR2
Recording format: F
Block Length: 02048
Record Length: 00128
Buffer-Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

***** Tape Mark *****

EOF1 D001R001FRAM0100010004000101 00000 00000 000004Frame Technol

Label: EOF1
File Identifier: D001R001
File-Set Identifier: FRAM01
File Section Number: 0001
File Sequence Number: 0004
File Generation Number: 0001
File Generation Version Number: 01
Creation Date: 00000
Expiration Date: 00000
Accessibility:
Block Count: 000004
System Code: Frame Technol

EOF2F0204800128

00

Label: EOF2
Recording format: F
Block Length: 02048
Record Length: 00128
Buffer-Offset Length: 00

***** Tape Mark *****

The remainder of the raster images had the same type file comments.

End of Volume FRAM01

End Of Tape File Set

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Deallocating /dev/rmt0...

Tape Import Process terminated with 3 errors.

7.3 Tape Error Log

CALS Test Network Document File Set Validation - Version 1.1

MIL-STD-1840A Imported Document File Set Validation Log

Found file: d001
Renaming Document Declaration file: d001
Extracting 1840A Document Declaration header records...
Validating Document Declaration header records...

srcsys: Frame Technology Corporation, San Jose
srodocid: ATT_EMSP
srcrelid: NONE
chglvl: ORIGINAL
dteis: 19891130
dstsys: YOU
dstdocid: ATT_EMSP
dstrelid: NONE
dtetm: 19891130
dlvacc: NONE
filcnt: T1, G1, R19
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Technical Document
docttl: NONE

Saving Document Declaration header file: d001_hdr

Found file: d001g001
Renaming DTD file: d001g001
Extracting 1840A DTD header records...
Validating DTD header records...

srodocid: ATT_EMSP
dstdocid: ATT_EMSP
notes: Actual filename is ATT.dtd

Saving DTD header file: d001g001_hdr
Saving DTD data file: d001g001_dtd

Found file: d001t001
Renaming Text file: d001t001
Extracting 1840A Text header records...
Validating Text header records...

srodocid: ATT_EMSP
dstdocid: ATT_EMSP
txtfilid: W
doccls: UNCLASSIFIED
notes: Actual filename is ATT.sgml

Saving Text header file: d001t001_hdr
Saving Text data file: d001t001_txt

Found file: d001r001
Renaming Raster file: d001r001
Extracting 1840A Raster header records...
Validating Raster header records...

srodocid: ATT_EMSP
dstdocid: ATT_EMSP
txtfilid: W
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 000480, 000449
rdensty: 300

*** ERROR (MIL-STD-1840A-5.1.4.4) - Value for rdensty was not a
zero-filled four character string.

*** NOTE - Correction made in new Raster header file.

notes: NONE

1 error(s) were encountered during header validation.

Saving Raster header file: d001r001_hdr

Saving Raster data file: d001r001_gr4

All 19 raster images had the same error.

Checking file count...

No errors were found.

File Count verification complete.

A total of 19 error(s) were encountered in document d001.

A grand total of 19 error(s) were encountered during validation.

MIL-STD-1840A File Set Validation Complete.

8. **Appendix B - XGML Parser Log**

The text file parsed without error using the Exoterica XGML Normalizer parser.